



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,515	10/22/2001	Krishnaswamy Ramkumar	CY 0025	4777

7590 05/08/2003

Bradley T. Sako
WALKER & SAKO, LLP
Suite 235
300 South First Street
San Jose, CA 95113

EXAMINER

KILDAY, LISA A

ART UNIT	PAPER NUMBER
----------	--------------

2829

DATE MAILED: 05/08/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,515

Applicant(s)

RAMKUMAR, KRISHNASWAMY

Examiner

Lisa A Kilday

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/4/3.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 7-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/22/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

This application contains claims 7-20 are drawn to an invention nonelected with traverse in Paper No. 3. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Applicant's argument filed 4/2/03 regarding the restriction is not persuasive for four reasons. First, the specification on pp. 1, & 7-8 distinguish three types of IGFET devices and three types of methods to make the distinct IGFETs. Second, the first species drawn to a method of making an EEPROM is illustrated in figs. 1 & 2. Third, the second species drawn to a method of making a MNOS device is illustrated in figs. 3-4. Fourth, the third species drawn to a method of making a SONOS device is illustrated in figs 7-8. The restriction is proper and final.

Applicant in Paper No. 5 requested their right to petition the restriction under 813©. Upon allowance, allowable combination of allowed claim will be rejoined.

Drawings

Figures 6-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant admitted in their response on pg. 5 that figures 6 and 7 are Background Art. Furthermore, applicant's specification noted that the methods of figures 6 and 7 are "conventional" (pg. 2, line 15).

Specification

The disclosure is objected to because of the following informalities: chemical formulas, should be written as: "Silicon nitride" not --silicon nitride--. When an element occurs alone such as "Oxygen", it should be capitalized. For example, replace silicon-oxygen-nitrogen-oxygen-silicon with "Silicon-Oxygen-Nitrogen-Oxygen-Silicon." If an element is the second ion in a chemical compound, it does not have to be capitalized. Capitalize all elements.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, the claim fails to clearly indicate what exposed surface the oxide layer is formed on. Examiner assumes that the layer is formed on the exposed surface of an insulating layer, which is deposited on a wafer.

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2829

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Clementi et al. (5,422,291). In re claim 1, Clementi et al. discloses in figures 1-8 a method of forming a plurality of semiconductor device layers, comprising the steps of: forming an oxide layer (6c) by reacting hydrogen and oxygen on a surface of an insulating layer deposited over a wafer (col. 4, lines 25-31); and forming a conductive gate layer over the oxide layer (8, 9).

In re claim 2, Clementi et al. discloses the reacting of Hydrogen and Oxygen is performed at a wafer temperature in about 800-1300C (col. 5, lines 20-25).

In re claim 3, Clementi et al. discloses that the oxide layer has a thickness of 20-60 Å (col. 4, lines 28-31; col. 5, lines 21-44).

In re claim 6, Clementi et al. discloses that the conductive gate includes polysilicon (8, col. 5 lines 50-55).

Claims 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Clementi et al. in view of Van Zant ("Microchip Fabrication", 4th ed., pp. 181-182. In re claims 4-5, Clementi et al. discloses reacting Hydrogen and Oxygen on the wafer surface to form an oxide at a temperature of about 800-1300C and thickness of about 20-60 Å (col. 5, lines 20-44) using wet oxidation.

The method of Van Zant teaches wet oxidation and Rapid Thermal Oxidation ("RTO"), which is inherently teaching the reaction time because the thickness and

Art Unit: 2829

temperature of the RTO are inherent to oxidation in order to control the thickness of the oxide layer (see Van Zant: fig. 7.28; pg. 181, lines 2-12).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0957. See MPEP 203.08.

Any inquiry concerning this communication from the examiner should be directed to Lisa Kilday whose telephone number is (703) 306-5728. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Kamand Cuneo, can be reached on (703) 308-1233. The fax number for the group is (703) 305-3432. MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

Lisa Kilday
LAK
5/1/03



KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800